

# Green Goes Global - Permaculture

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## What is permaculture?

"Permaculture is a philosophy of working with, rather than against nature; of protracted and thoughtful observation rather than protracted and thoughtless labor; and of looking at plants and animals in all their functions, rather than treating any area as a single product system."



**Bill Mollison** 



## **Three Foundational Ethics**

**Care of the Earth:** Provision for all life systems to continue and multiply.

**Care of people:** Provision for people to access those resources necessary for their existence

Fair share (share the surplus): Setting limits to population and consumption by governing our own needs, we can set resources aside to further the above principles.







#### Permaculture Ethics is the second Care of the Earth ာိကိ Care of People R Fair Share & Design Principles ÷Ģ: 1. Observe & interact 2. Catch & store energy 3. Obtain a yield 4. Apply self-regulation & accept feedback 0 5. Use & value renewable resources & services 6. Produce no waste 7. Design from patterns to details 8. Integrate rather than segregate 9. Use small & slow solutions 10. Use & value diversity **Blisko Serca** 11. Use edges & value the marginal **Christian Charity Service** 12. Creatively use & respond to change and Co-funded by the HOLMGREN DESIGN SERVICES Erasmus+ Programme permacultureprinciples.com 20 of the European Union This work is licensed under the Creative Commons Attribution-Noncommercial-No Derivative Works 2.5 Australia License. To view a copy of this license, visit

http://creativecommons.org/licenses/by-nc-nd/2.5/au/ or send a letter to Creative Commons, 121 Second Street, Suite 300, San Francisco, California, 94105, USA. The 'design principles' have been adapted from David Holmgren's book 'Permaculture: Principles & Pothways Beyond Sustainability'. Permaculture Principles Poster 1.0

#### Twelve design principles

1. <u>Observe and interact</u>: By taking time to engage with nature we can design solutions that suit our particular situation.

2. <u>Catch and store energy</u>: By developing systems that collect resources at peak abundance, we can use them in times of need.

3. <u>Obtain a yield</u>: Ensure that you are getting truly useful rewards as part of the work that you are doing.

4. <u>Apply self-regulation and accept feedback</u>: We need to discourage inappropriate activity to ensure that systems can continue to function well.

5. <u>Use and value renewable resources and services</u>: Make the best use of nature's abundance to reduce our consumptive behavior and dependence on non-renewable resources.

6. <u>Produce no waste</u>: By valuing and making use of all the resources that are available to us, nothing goes to waste.

7. <u>Design from patterns to details</u>: By stepping back, we can observe patterns in nature and society. These can form the backbone of our designs, with the details filled in as we go.

8. <u>Integrate rather than segregate</u>: By putting the right things in the right place, relationships develop between those things and they work together to support each other.

9. <u>Use small and slow solutions</u>: Small and slow systems are easier to maintain than big ones, making better use of local resources and producing more sustainable outcomes.

10. <u>Use and value diversity</u>: Diversity reduces vulnerability to a variety of threats and takes advantage of the unique nature of the environment in which it resides.

11. <u>Use edges and value the marginal</u>: The interface between things is where the most interesting events take place. These are often the most valuable, diverse and productive elements in the system.

12. <u>Creatively use and respond to change</u>: We can have a positive impact on inevitable change by carefully observing, and then intervening at the right time.





## Patterns

Design in permaculture focuses primarily on natural patterns. All things, even wind, waves and Earth orbiting the Sun, create patterns. In applying patterns, permaculture designers are encouraged to observe natural patterns, their functioning and to reflect them in a given project. The application of pattern on a design site involves the designer recognizing the shape and potential to fit these patterns or combinations of patterns comfortably onto the landscape.











#### Layers

Layers are one of the tools used to design functional ecosystems that are both sustainable and of direct benefit to humans. A mature ecosystem has a huge number of relationships between its component parts: trees, understory, ground cover, soil, fungi, insects, and animals. Because plants grow to different heights, a diverse community of life is able to grow in a relatively small space, as the vegetation occupies different layers.



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## Guilds

A guild is a group of species within which each provides a unique set of diverse functions that work in conjunction or harmony. There are many forms of guilds, including guilds of plants with similar functions that could interchange within an ecosystem, but the most common perception is that of a mutual support guild. Mutual support guilds are groups of animals, insects, plants, etc. that work well together. Plants may be grown for food production, draw nutrients from deep in the soil through tap roots, are nitrogen-fixing legumes, attract beneficial insects, and repel harmful insects. When grouped together in a mutually beneficial arrangement, these plants form a guild.





## Edge effect

The edge effect in ecology is the effect of the juxtaposition, or placing contrasting environments on an ecosystem. Permaculturists argue that where vastly differing systems meet, there is an intense area of productivity and useful connections. An example of this is the coast; where the land and the sea meet, there is a particularly rich area that meets a disproportionate percentage of human and animal needs. This idea is played out in permacultural designs by using spirals in herb gardens, or creating ponds that have wavy undulating shorelines rather than a simple circle or oval (thereby increasing the amount of edge for a given area).



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## Zones

Zones intelligently organize design elements in a human environment based on the frequency of human use and plant or animal needs. Frequently manipulated or harvested elements of the design are located close to the house in zones 1 and 2. Manipulated elements located further away are used less frequently. Zones are numbered from 0 to 5 based on positioning.





## **Common practices**

• Natural building - primarily utilizes abundantly available natural materials (e.g., clay, rock, sand, straw, wood, reeds), and draws heavily on traditional architectural strategies from various climates across the world.



## Rainwater harvesting

Rainwater harvesting is the accumulating and storing of rainwater for reuse before it reaches the aquifer. It has been used to provide drinking water, water for livestock, water for irrigation, as well as other typical uses. Rainwater collected from the roofs of houses and local institutions can make an important contribution to the availability of drinking water. It can supplement the subsoil water level and increase urban greenery. Water collected from the ground, sometimes from areas which are especially prepared for this purpose, is called **stormwater harvesting**.







**Greywater** is wastewater generated from domestic activities such as laundry, dishwashing, and bathing, which can be recycled on-site for uses such as landscape irrigation and constructed wetlands. Greywater is largely sterile, but not potable (drinkable). Greywater differs from water from the toilets, which is designated sewage or blackwater to indicate it contains human waste.

**Blackwater** is septic or otherwise toxic and cannot easily be reused. There are, however, continuing efforts to make use of blackwater or human waste. The most notable is for composting through a process known as humanure; a combination of the words human and manure. Additionally, the methane in humanure can be collected and used similar to natural gas as a fuel, such as for heating or cooking, and is commonly referred to as biogas. Biogas can be harvested from the human waste and the remainder still used as humanure. Some of the simplest forms of humanure use include a composting toilet or an outhouse or dry bog surrounded by trees that are heavy feeders which can be coppiced for wood fuel. This process eliminates the use of a standard toilet with plumbing.





## • Sheet mulching

In agriculture and gardening, mulch is a protective cover placed over the soil. Any material or combination can be used as mulch, such as stones, leaves, cardboard, wood chips, gravel, etc., though in permaculture mulches of organic material are the most common because they perform more functions. These include absorbing rainfall, reducing evaporation, providing nutrients, increasing organic matter in the soil, feeding and creating habitat for soil organisms, suppressing weed growth and seed germination, moderating diurnal temperature swings, protecting against frost, and reducing erosion. Sheet mulching is an agricultural no-dig gardening technique that attempts to mimic natural processes occurring within forests. Sheet mulching mimics the leaf cover that is found on forest floors.









## **Urban Permaculture**











**Guerrilla gardening** is the act of gardening on land that the gardeners do not have the legal rights to cultivate, such as abandoned sites, areas that are not being cared for, or private property. It encompasses a diverse range of people and motivations, ranging from gardeners who spill over their legal boundaries to gardeners with political influences who seek to provoke change by using guerrilla gardening as a form of protest or direct action.



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## **Community-supported agriculture**

CSA model is a system that connects the producer and consumers within the food system more closely by allowing the consumer to subscribe to the harvest of a certain farm or group of farms. It is an alternative socioeconomic model of agriculture and food distribution that allows the producer and consumer to share the risks of farming. The model is a subcategory of civic agriculture that has an overarching goal of strengthening a sense of community through local markets.





### Global justice now!





**Degrowth** is a political, economic, and social movement based on ecological economics, anti-consumerist and anti-capitalist ideas. It is also considered an essential economic strategy responding to the limits-to-growth dilemma. Degrowth thinkers and activists advocate for the downscaling of production and consumption – the contraction of economies – arguing that overconsumption lies at the root of long term environmental issues and social inequalities. Key to the concept of degrowth is that reducing consumption does not require individual martyring or a decrease in wellbeing. Rather, "degrowthers" aim to maximize happiness and well-being through non-consumptive means sharing work, consuming less, while devoting more time to art, music, family, nature, culture and community.











## Inspiration

- Incredibly Abundant Permaculture Garden in the City | The Plummery
- <u>Eco-nomics: A Permaculture Design Tammy Turner TEDxTunghaiU</u>
- The Power of Permaculture | Ryan Harb | TEDxUtica
- Introduction to permaculture ekofarm in France
- Permaculture the documentary: how it started
- Permaculture Project | A System for Sustainable Life BBC
- <u>5 Essentials For Your First Permaculture Project</u>
- <u>A guerilla gardener in South Central LA | Ron Finley</u>
- <u>Guerrilla gardening -- why people garden without boundaries: Richard Reynolds</u> <u>at TEDxItaewon</u>



